

# The Nation's Center of Excellence for Medical Chemical Defense

3100 Ricketts Point Rd, Aberdeen Proving Ground, Maryland 21010

# The United States Army Medical Research Institute of Chemical Defense (USAMRICD)

### - An Overview -

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# **MISSION AND VISION**

### **Mission**

Discover and develop medical products and knowledge solutions against chemical threats through research, education & training, and consultation.

### Vision

To strengthen our nation and the world by rendering chemical threats medically harmless.





# **USAMRICD SCIENTIFIC PROGRAMS AND CAPABILITIES**

#### **Analytical**

- -Diagnostics -ADMET
- -Forensics

# Nerve Agent Countermeasures

- -Reactivators
- -Neuroprotectants
- -Anticonvulsants
- -Pretreatments

# **Knowledge Solutions**

- -Consultation -Education
  - -Training

#### **Toxicants**

- -Cyanide Interventions
  - -TIC Interventions
  - -BoNT Interventions
    - -HD Interventions
- -Classified Agent Interventions
  - -Pulmonary Protections

#### **Agent Mitigation**

- -Bioscavengers
- -Decontamination

# PROGRAMS & FIELDED PRODUCTS







TestMate<sup>®</sup>
Cholinesterase Kit



Chemical Casualty Care
Reference Material



**Pyridostigmine** 



Nerve Agent Antidote Kit



**SERPACWA** 



Convulsant Antidote Nerve
Agent (CANA)



**Multichambered Autoinjector** 

# PRODUCTS IN ADVANCED DEVELOPMENT

- Advanced Anticonvulsant System (AAS)
  - Midazolam
- Bioscavenger (BSCAV)
  - Recombinant
  - Human Plasma Derived
- Improved Nerve Agent Treatment System (INATS)
  - MMB4
  - Licensure Expansion of Pyridostigmine beyond Soman
- Soman Nerve Agent Pretreatment, Pyridostigmine (SNAPP)
  - Post-Marketing Studies



#### **EDUCATION/TRAINING**

- MCBC Medical Management of Chemical and Biological Casualties
- FCBC Field
   Management of Chemical and Biological Casualties
- HM-CBRNE Hospital Management of Chemical, Biological, Radiological, Nuclear, and Explosive Incidents
- Off Site Courses
- Webinars









# **COMMUNITY ENGAGEMENT (1 OF 2)**

#### Science, Technology, Engineering, and Mathematics (STEM) Initiatives

- Gains in the Education of Mathematics and Sciences (GEMS) program
  Program initiated in 2011 have had 45-75 students over the last 2 years
- Science and Engineering Apprenticeship program (SEAP)
  USAMRICD has had 10-19 students each summer since 1998
- Senior "Capstone Project" mentorshipUSAMRICD has mentored 2-6 students annually
- College Qualified Leaders (CQL) program
  - USAMRICD has one student at this time



# **COMMUNITY ENGAGEMENT (2 OF 2)**

Science, Technology, Engineering, and Mathematics (STEM) Initiatives cont.

- Oak Ridge Institute for Science and Education (ORISE) program
   USAMRICD has ~60-70 ORISE students per year
- ORISE Collaborative Traveler program
   The number of participants varies from year to year
- ORISE Knowledge Preservation program
   Currently, USAMRICD has two in this program
- NRC Research Associateship program (RAP)
  USAMRICD currently has 3 NRC postdoctoral students



# MRICD FUTURE DIRECTIONS

- Enterprise/Core Capabilities
  - ADMET
  - Proteomics/Genomics
  - Imaging
  - BoNT Consortium
- Increase Collaborations
  - DoD Labs
  - Other Government Agencies and Departments
  - Academia
  - International





# **PARTNERING**

#### Battelle The Business of Innovation





EDGEWOOD CHEMICAL BIOLOGICAL CENTER













UNIFORMED SERVICES UNIVERSITY of the Health Sciences













**Wright-Patterson** Air Force Base





Reducing the burden of neurological disease.





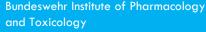


















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The Nation's Center of Excellence for **Medical Chemical** Defense



**RESEARCH** 

**EDUCATION/TRAINING** 







